

GP-303620

DIESEL ENGINE WITH CAM PHASERS
FOR IN-CYLINDER TEMPERATURE CONTROL

ABSTRACT OF THE DISCLOSURE

A cam phaser is mounted on the exhaust camshaft of a diesel engine and is operable to selectively advance timing of only the exhaust valves relative to a nominal position. The purpose of advancing timing of the exhaust valves is to advance valve closing sufficiently to shorten the effective exhaust strokes of the pistons and thus increase the trapped hot exhaust residuals. This occurs when the exhaust valves close earlier than piston top dead center in the normal exhaust stroke phase of engine operation. This increases the in-cylinder temperature so that combustion stability and hydrocarbon emissions are improved.